

2010 Survey of General Purpose Law Enforcement Agencies

Submitted to:

Bureau of Justice Statistics

By:

The Urban Institute

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research for safer communities

TECHNICAL PROPOSAL NARRATIVE

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1 Abstract

The Justice Policy Center of the Urban Institute (UI) is proposing to collaborate in the successful design and administration of BJS' *Survey of General Purpose Law Enforcement Agencies* (SGPLEA). SGPLEA will build upon BJS' long-standing national law enforcement statistical collections, most notably the *Law Enforcement Management and Administrative Statistics* (LEMAS) survey. It will also lay the groundwork for the implementation of new BJS law enforcement data collection plans and protocols that have been developed in response to the recent recommendations of the National Research Council (NRC).

Working closely with BJS, UI plans to review and make recommendations to BJS about its revised draft survey instrument and sampling plans. Following finalization of instrumentation and sampling plans, a nationally representative sample of approximately 3500 municipal, state and county general purpose law enforcement agencies will be selected. Survey administration will commence in January 2011, result in two interim descriptive findings reports and culminate in the provision of SGPLEA response data files and documentation to BJS. UI also will provide written recommendations to BJS for dealing with missing data, data weighting and imputations. Finally, a survey efficiency report will be prepared at the conclusion of SGPLEA administration and discussed with police research experts at two roundtables in the fall of 2011. The results of these roundtables will be provided to BJS at the end of the project as a final project deliverable.

2 Overview

The Justice Policy Center of the Urban Institute (UI) proposes to assist the Bureau of Justice Statistics in the design and implementation of its *2010 Survey of General Purpose Law Enforcement Agencies* (SGPLEA). This work will build upon and expand the collection of

accurate and reliable national-level statistics under BJS' law enforcement statistical program that began in 1987.

The collection of timely and accurate information about law enforcement agencies is central to BJS' mission to provide data to Federal, state and local policymakers to make informed decisions about how best to combat crime and ensure efficient and evenhanded justice. In addition, the research and academic community, the media, the public, and criminal justice practitioners all benefit from national statistics about law enforcement functions, processes and performance. The addition of data from the 2010 SGPLEA will not only provide important policy-related and practical information about general municipal, county and state public police departments to all of these consumer groups, but it will facilitate the measurement of key administrative changes over time and across different kinds of police departments in the United States. It will also lay the groundwork for BJS' future program of management and performance statistics that will be administered at regularly scheduled intervals consistent with the recommendations of the National Research Council (NRC).

UI has assembled a uniquely qualified research team for its nationally representative survey of a sample of approximately 3500 law enforcement agencies. In addition to large scale multi-modal national-level survey research experience, which many research organizations also possess, UI's SGPLEA team is comprised of a seasoned research staff with experience across many police-related studies and in the collection of national-level agency statistics for BJS. This research team will be supplemented by two expert consultants. One is an internationally recognized researcher who has focused on larger law enforcement agencies, was a member of NRC's police statistics review panel and has published extensively on police practice and policies. The second is also a veteran police researcher, particularly with smaller departments,

and is well known in the practitioner community, having been a small jurisdiction police officer and chief himself. To this expertise UI adds information technology capabilities to successfully implement web-based survey methodologies, a survey management and response tracking system and a performance monitoring capability based upon proven systems previously developed for BJS.

Consistent with BJS's needs, our proposed SGPLEA plans call for beginning this project in October 2010, engaging in survey action planning in the fall and fielding the SGPLEA in January 2011. The primary data collection approach will be a web-based data collection system, designed and managed by UI's Information Technology Center. Alternative compact disc, hard copy mail and fax collection methodologies will also be employed. A variety of follow up procedures are planned, including personal contacts with individual law enforcement agencies by UI's expert consultants, to insure at a 90-95% survey response rate and a 100% item rate. In addition, an on-line performance monitoring and response tracking/communications system will be implemented to assist in UI's overall management of the survey and to enable BJS program managers to monitor UI performance in near real time.

The survey will result in the delivery to BJS of a machine readable database of survey responses, codebooks, and processing documentation in September 2011. In addition, UI will produce a survey efficiency report, which will be examined by BJS and two roundtables of police experts during the fall of 2011. Recommendations coming from these roundtables will provide guidance to BJS in their design of future general and special purpose law enforcement agency surveys under its more comprehensive and consistently scheduled law enforcement statistical portfolio.

3 Statement of the Problem

BJS' collection of national-level law enforcement statistics evolved from the earlier work by the Fraternal Order of Police and the Kansas City Police Department's (KCPD) annual surveys of police salaries that began in the 1950's (Langworthy, 2002). In 1977 and 1981 KCPD partnered with the Police Foundation and PERF on more extensive surveys of law enforcement operations and administrative practices and by 1984, BJS concluded, based upon a study it commissioned, that there was substantial interest in comparative police organizational statistics throughout the practitioner and research communities (NRC, 2009; Langworthy, 2002; Uchida, 1984).

As a result, BJS embarked on a series of national-level law enforcement data collection efforts beginning in 1986. This began with the first *Census of State and Local Law Enforcement Agencies*, which by 2009 had been administered five additional times. The Law Enforcement Management and Administrative Statistics (LEMAS) Survey, which has been focused primarily on organizational and administrative characteristics of police departments (personnel, budget resources, training, etc.), began in 1987. LEMAS has been administered a total of 8 times through 2009, approximately every three to four years, although it was administered three out of four consecutive years in the late 1990's. In addition to these general law enforcement statistical collections, seven other special agency surveys have been conducted more than once since 1993, and two special topical surveys on traffic stops were administered from 1999 through 2006 (NRC, 2009).

The National Research Council (NRC) in its recent review of BJS law enforcement data collections concluded that while its efforts were important and worthwhile to many audiences, there were nonetheless a number of critical deficiencies. In particular, the LEMAS surveys were

observed to be overly restrictive and too focused on descriptive administrative and managerial characteristics of individual law enforcement agencies. Because of this narrow focus, the effectiveness of various police programs cannot be assessed (NRC, 2009, p. 133, 137). Stated differently, NRC concluded that while numerous facts were collected about law enforcement agencies, little insight could be drawn from these facts either in a single year or over time (NRC, 2009, p 147). In order to improve the use of LEMAS data for advancing knowledge, particularly the generation of information relevant to practitioners, more data beyond simple administrative facts need to be collected (NRC, 2009, p. 147), such as linkage to crime statistics and gross system flows (NRC, 2009, 135). Finally NRC observed that for all of the law enforcement series there has been little semblance of fixed survey schedules or the interconnectedness of the various series (NRC, 2009, p. 133).

Because of these observed deficiencies, NRC made several specific recommendations to BJS for changing the law enforcement series. First, it was suggested that BJS develop a plan across general and specific topic collections that incorporates an integrated approach across different series. Second, it recommended recasting LEMAS as a survey with a core set of response items. Third, BJS should provide findings and data for secondary analysis on a timelier basis. Finally, law enforcement collections should be conducted using regularly scheduled collection periods (NRC, 2009, p.145).

BJS clearly has taken the NRC recommendations to heart and developed a new approach to its law enforcement organizational surveys. They first have separated their collections into “general purpose, special purpose, and support agencies” (BJS, 2010, p.5). The 2010 SGPLEA is the first general purpose collection under this new approach and is designed to focus on public municipal, county or state law enforcement agencies with sworn officer patrol and enforcement

responsibilities. It will also be designed to lay the foundation for regularly scheduled future general purpose agency surveys, the next being scheduled for 2012. Finally, BJS has taken steps toward the integration of law enforcement agency and program data with measures of performance such as crime, citizen surveys and other sources through the collection of organizational identifiers (BJS, 2010, p. 5-6), such as ORI codes (Lindgren, 2001). It is within the context of the NRC observations and recommendations, as well as the resulting new BJS law enforcement survey data collections plans, that UI's proposed 2010 SGPLEA scope of has been developed.

4 2010 SGPLEA Goals and Objectives

The goal of the 2010 Survey of General Purpose Law Enforcement Agencies is, "to generate accurate, reliable, timely and relevant national statistics about general purpose law enforcement agencies in the United States." (BJS, 2010) Topical areas of interest include: personnel, budgets, policies and programs.

To achieve this goal, the first objective is assist BJS with its re-design of its past *Law Enforcement Management and Administrative Statistics (LEMAS)* survey that will be used to collect reliable and valid data that measure core variables across all topical areas of interest to BJS and its consumers. The second objective is to field the final BJS 2010 survey to a scientifically representative sample of general purpose agencies using multi-modal methodologies. The third objective is to secure a minimum survey response rate of 90-95% (or better) from the target sample and to insure a 100% item response rate. The results of the survey will be compiled into a machine readable ASCII data file with accompanying codebooks and processing documentation for delivery to BJS and for archiving with the National Archive of Criminal Justice Data. Finally, a survey administration efficiency report will be developed,

discussed at two expert roundtables, and provided to BJS at the end of the 15-month project period.

5 Project Design/Implementation

UI proposes to achieve the goals and objectives of the 2010 Survey of General Purpose Law Enforcement Agencies by working in close collaboration with BJS. Its work will be led by a multi-disciplinary team of researchers that have demonstrated expertise in law enforcement operations and management, data systems and innovative programs, as well as demonstrated national-level multi-modal survey technical expertise. Supplementing the research team will be two internationally known law enforcement researchers with unique expertise about both large urban and small rural police departments. We propose five interrelated general tasks for successful completion of the 2010 Law Enforcement Survey, which are described below. The 18 more specific tasks specified in the survey solicitation are highlighted within applicable general task categories.

Task 1 – Start Up and Project Management – Immediately after the 2010 Law Enforcement Survey cooperative agreement is awarded, the UI research team will convene a kick-off meeting with the BJS program manager and other staff. This meeting will be designed to achieve several important objectives. The first will be to discuss UI’s proposed scope of work and its preliminary task timeline. If necessary, the results of this discussion will lead to revisions in our current proposed project plans. This will include the development of a final task timeline and associated project benchmarks, which will be submitted to BJS for review and approval no later than two weeks after the kick-off meeting. In addition, UI will seek BJS input on potential law enforcement and professional group leadership that can be invited to participate in two expert panel roundtables to discuss survey efficiencies toward the end of the project. This kick-

off meeting will also be used to secure the roster of law enforcement agencies for the survey, the current BJS draft survey instrument and documents related to the BJS sampling plan. In addition, we plan to secure the respondent list from the past law enforcement census for updating once the survey sample is drawn. Finally, we plan to reach consensus with BJS on communication, reporting and performance expectations for the duration of the project.

We anticipate at a minimum there will be monthly conference calls between the UI principal investigator and BJS project manager during the entire period of performance consistent with *BJS Task 1*.¹ These regular communications will be supplemented by face-to-face meetings when necessary, and e-mail or telephone conversations when appropriate. Our intent is to insure frequent communications in order to foster true cross organizational collaboration and to facilitate problem solving, should unanticipated challenges arise. Standard written categorical progress reports and monthly financial reports will also be prepared and delivered to BJS as required.

Task 2 – Reviews of BJS Instruments and Sampling Plan – The SGPLEA solicitation notes that BJS will have developed a draft of the survey instrument and a preliminary agency sampling plan prior to project commencement. As noted under Task 1 above, we plan to secure these materials at the initial kick-off meeting with BJS. In the month following the kick-off meeting the UI survey team and their two consultants will conduct reviews of both the draft instrument and the sampling plan.

Draft Survey Instrument Review (BJS Task 2) – The review of the draft instrument will include both substantive measurement topics and structural design considerations. The substantive review will focus on the topics and individual questions in the instrument. Of particular importance will be reconciling the draft instrument with the recommendations of the

National Research Council (2009). For example, this review will include identification of areas that may substantively overlap components of other regular national statistics data collection efforts, such as the FBI’s UCR Program or special law enforcement data collections (NRC, 2009, p. 107). Another important substantive consideration will be topical expansion beyond what NRC has concluded is an overly narrow focus in law enforcement statistics collections on management and administrative issues. Inclusion of gross case flow and similar systemic statistical information are viewed as an areas worthy of particular expansion by NRC (2009, p. 136). Not only will the substantive review explore topics and questions that might be added, but will also consider topics and items that may be deleted.

The structural instrument review will focus on a comparison of the anticipated burden to respondents of completing the 2010 SGPLEA survey to that of the most recently administered LEMAS survey. BJS’ objective is to have a lower respondent burden in the new SGPLEA. Respondent burden is primarily associated with two organizational constraints: resources available to compile survey responses and other demands on time (NRC, 2009, p. 148). Therefore, burden can be reduced in two ways. The first is to reduce the total number of response items, or delete those that require the most amount of time for a respondent to seek out the requisite information to answer the question correctly. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] However, it is important that burden be balanced with item

¹ Referenced BJS Tasks are those specified in the SGPLEA solicitation.

² [REDACTED]

importance. For example, some administrative items (personnel, budgets) may take time to collect, but as core survey measures they need to be retained in the survey.

This instrument review will be designed to be a collaborative one with BJS program managers and leadership. We have found in past survey instrument design efforts with BJS that such discussions of ideas and approaches have often led to additional new ideas that had not been considered as well as dropping of some ideas due to factors of importance to BJS, but not known to the research team. We plan to have our two law enforcement consultants substantially involved in both of the instrument reviews and interactions with BJS. This will be particularly valuable given their extensive experience with surveying and working with both large and small police departments. At the conclusion of the instrument review UI will produce a written summary of recommendations and an oral presentation for BJS on suggested instrument modifications. Following BJS' review the draft survey instrument will be modified and finalized, as necessary.

Sampling Plan Review (BJS Task 3) - This task calls for a review of the proposed sampling plans which are to be furnished by BJS. Our approach will involve addressing four areas of exploration as discussed below:

Research goals and objectives - The effectiveness and efficiency of a sample design can only be measured against the research goals and objectives of the research itself. As such, it is critical to delineate the primary and secondary research questions and analytic objectives of the SGPLEA. If explicit statements of goals and objectives are not readily available, they will be culled through the examination of past reports. Moreover, the research goals may have changed for 2010 due to a change in policy priorities (e.g., focus on tribal areas and/or rural areas) or a change in analytic direction stemming from recommendations appearing in the NRC report and

BJS' adoption of its new Program of Law Enforcement Organizational Surveys. It is essential that this step be conducted before exploring enhancements or we run the risk of inadvertently attenuating a secondary (or even primary) research objective. With research goals and objectives at hand, we will be able to show how each sample design feature reflects the research goals and whether trade-offs are warranted (e.g., conducting a census of the roughly 154 tribal LEAs decreases the precision of national estimates but allows detailed analyses of tribal agencies).

Stratification - The 2003 (and likely the 2007) LEMAS sample design employed stratification by categories of the population they served, agency type and number of sworn personnel. Using the research goals/objectives as context, we would explore more effective methods of stratification. A key is the existence of public use 2003 LEMAS data (and hopefully for 2007). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] At a minimum, we would verify that the historical stratification schemes are satisfactory. At best, we could identify a set of stratification variables that could increase precision 5-10 percent over current methodology, possibly more.

Self-representing Agencies - Another crucial area (technically falling under "stratification") is the identification of self-representing areas. In the 2003 LEMAS, an agency was declared self-representing if it is either: (a) a State Police agency or (b) had 100 or more

sworn full-time equivalent (FTE) employees. Such a substantive definition may or may not serve LEMAS well from a statistical precision perspective (depending on the research goals). A more data-driven definition could be generated to exploit the highly skewed nature of the agency distributions by population served. To illustrate, consider Table 1 which presents the distribution of agencies, sworn personnel and civilian staff by categories of population served by the agency. The middle shaded (gray) rows show that 6 percent of agencies (N=697) serving populations of 50,000 or more account for over 60 percent of all full time sworn personnel and two thirds of full time civilian employees of law enforcement agencies. And the next row shows that 1473 agencies (only 12% of all LEAs) serving populations of 25,000 or more account for roughly

Table 1: Number and Cumulative Percentage Distributions of Agencies, Full Time Sworn Personnel and Full Time Civilian Staff by Population Served in the 2003 LEMAS

2003 LEMAS Population served	Agencies		FT Sworn Staff		FT Civilian Staff	
	Cum N	Cum %	Cum N	Cum %	Cum N	Cum %
1+ million	17	0.1%	97,437	22%	29,699	23%
500K - 999K	56	0.4%	147286	33%	43912	34%
250K - 499K	98	0.8%	179395	40%	54876	43%
100K - 249K	275	2%	229693	51%	71614	56%
50K - 99K	697	6%	279770	62%	86729	67%
25K - 49K	1473	12%	328502	73%	100439	78%
10K - 24K	3360	27%	387135	86%	115713	90%
2.5K - 9.9K	7408	59%	433801	96%	126575	98%
under 2.5K	12656	100%	451737	100%	129013	100%

* Data from *Local Police Departments, 2003*; MJ Hickman & BA Reaves, BJS; NCJ210118, May 2006

three quarters of full time sworn personnel (73%) and full time civilian staff (78%). Stated conversely, roughly 90 percent of agencies account for only (roughly) a third or less of sworn staff a civilian staff employed by LEAs. From a policy perspective, how important is it to have a sample of agencies that represents the people who work there or that serve almost the entirety of

the US population³? If that is very important, then (apart from oversampling specific “domains of study” to achieve a research goal) it would be advisable to consider declaring as self-representing the 697 agencies serving populations of 50,000 or more, or even declare as self-representing the 1,473 agencies serving population of 25,000 or more.

Optimization of the design – in context of explicit research objectives, sample design techniques can be invoked to increase or maximize statistical precision for a given level of resources/cost. 







As with the instrument review, at the conclusion of the sampling review a written set of recommendations to BJS’ draft plan will be provided in conjunction with an oral presentation by the UI SGPLEA team. Upon review and modifications by BJS, the final sampling plan will be adopted for implementation and guide completion of the next task, SGPLEA survey planning.

Task 3 – Law Enforcement Survey Planning - During the first quarter of the project, the UI team will also be working closely with BJS on the development and finalization of a survey administration plan. This administration plan will involve the following subtasks:

Select Survey Sample (BJS Task #4) - Following BJS approval of the final sampling plan, departments will be selected in accordance with that plan. The listing of individual general purpose law enforcement agencies from the most recent *BJS Census of Law Enforcement Agencies* will be the basis for enumeration of the population of departments to be sampled. We anticipate that the approved sampling plan will include all larger departments and random

³ According to 2008 American Community Survey, 86% of the US population resides in counties with 50,000 or more population, and 94% of US population resides in counties with 25,000 or more population.

samples of departments within the other strata; there will be a total N of approximately 3500.

[REDACTED]

[REDACTED]

After the sample is selected, a respondent verification e-mail or letter will be sent to each selected department. In this way, the respondent list will be accurate once the survey is fielded. Two response verification response options will be available. One will be to access the SGPLEA website, which will also help to familiarize respondents with the interfaces. The other will be to mail back the form in a self-addressed, stamped envelope.

Develop 90 Percent Response Plan (BJS Task #5) – During the first quarter of the project we will also develop a formal survey response plan for submission to BJS. This plan will include suggested SGPLEA team activities to maximize both agency response and item response rates. In addition, this response plan will be broken into activities that will be accomplished prior to fielding the survey and activities that will be undertaken as the survey proceeds.

Our past law enforcement and other agency survey experience suggests that a number of important tasks will need to be undertaken well before the survey roll out in January 2011. Advance notice is one of those, and the response plan will incorporate a number of approaches to achieving such notice – including notices of pending survey distribution in trade publications or through other media and notices at national law enforcement conferences, such as IACP and PERF, during the fall of 2010. Another important activity will be verification of individual points of contact for the sampled departments and their contact information.

Once the survey is in the field we anticipate another set of activities will be included in our response plan. First, as web-based and hard copy responses begin to be received we will need to be proactive in our monitoring of which agencies they are coming from and how

complete they are. As noted in the discussion of our electronic monitoring tools, this will be automated for web-responses and response trends can be monitored accurately and quickly as the survey administration period evolves so that corrective follow up actions can be taken. We also anticipate incorporating help functions into the web-based tool to minimize confusion about specific items and to operate a help desk staffed by a member of the SGPLEA team to answer respondent questions during regular business hours for the eastern U.S. For other periods of time, e-mail and telephone contact information will be prominently displayed on survey materials with next day response assured. In addition to substantive assistance, the help desk will also be able to assist with technical issues that may affect non-response. Finally, we plan to incorporate extensive follow up activities into our response plans. These will include proactive personal contacts with respondents by the UI team, as well as outreach by our expert law enforcement consultants, who are well known to law enforcement executives across the country. It is anticipated that contact frequency will increase over the course of the remaining survey administration period in order to maximize rates.

Develop On-Line Web-Based Reporting Tool (BJS Task #6) - Our preferred survey administration approach, and the one that we will encourage, will be web-based. It will allow for multiple users per agency and multi-session/non-sequential completion. It will also include an item timing function that will permit the tracking of items taking respondents longer to answer. Its design and testing will take place during the project planning period and will include the following components:

Web Interface – The web interface is the initial page that a respondent sees when accessing the UI SGPLEA website. It will be designed in a similar format to that used in the 2007 LEMAS in order to not increase the reporting burden and potential non-response.

Specifically, there will be information provided on the history of the LEMAS and the new SGPLEA, a burden statement consistent with OMB requirements, system requirements for responding, security information and links to previous LEMAS reports. Access to the website behind the initial interface will be controlled by jurisdiction-specific passwords in order to maintain respondent confidentiality and response data security.

Web Forms – The web survey design will insure that third-party software beyond the capabilities of the user’s web browser will not be required and will be tested with the four most common browsers (Explorer, Firefox, Safari and Opera). The web version of the instrument will be similar in appearance to the hard copy version approved by BJS. The following functionalities will be incorporated for survey respondents:

- 

 The first time a respondent logs into the system, they will be taken to a page containing detailed instructions on how to complete the survey response forms. They will also be asked for their contact information and be given the opportunity to download a PDF version of the survey for reference. Respondents can also change their passwords during this initial step.






- [REDACTED]
- [REDACTED]

Each help display will also include the e-mail address and telephone number of the UI SGPLEA Help Desk, where respondents can receive in-person assistance or clarification from a member of the UI survey team.

- Glossary of Key Terms – Respondents will be able to access a glossary listing the definitions of keywords used on the survey form.
- [REDACTED]

- Extended Instructions – In addition to instructions on how to complete and submit the survey and how to contact the Help Desk for assistance, a tip sheet listing key information items that may be required during survey completion will be provided. Explanations of the various help features (e.g. item-specific help, glossary, Help Desk) will also be included.
- Submit as Complete – [REDACTED]
[REDACTED]
[REDACTED] To submit, the respondent will navigate to a complete and submit page. When they access this page, an automated validation procedure will be automatically run and incomplete items or those that otherwise do not pass a validation check will be identified. These will be listed for respondents to reconsider and correct. Designation of the survey as complete and submitting it will not require changing items that failed the validation check, but respondents will be advised that UI staff will contact them to follow up on items that had been flagged.
- Option to Print a PDF Copy of the Completed Survey – This capability will be implemented as a report for individual respondents. They will, however, only be able to print their own report responses, not those of any other respondent or aggregated responses.
- [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- Data Security – Both the web server and the database server are located in a restricted card access only room at UI. Only appropriate project personnel will have access to this area. Moreover, the entire database will be encrypted and backups will be segregated from non-confidential backups. Backup database tapes are secured in an onsite safe and not allowed to be sent offsite. Following completion of the project and database archiving (absent personal identifiers), all files will be destroyed.

Field Test Web-Based Tool (BJS Task #7) – After the web-based survey tool is finalized it will be thoroughly tested to insure accuracy and reliability of data collection, minimal respondent burden and ease of use. Three levels of testing will be undertaken. The first will be internal testing by the SGPLEA research team and consultants. The second will be a review and testing by BJS staff. The third will be a field test among nine law enforcement agencies of varying sizes and among both police and sheriff agencies that will not be included in the SGPLEA sample. The goals of each of these testing levels will be to:

- Validate that the tool and associated systems function as intended (entry, navigation, report generation, formats)
- Test functionality and robustness (identification of waiting periods, lock ups, etc.)
- Confirm integrity of data outputs under both conventional and anomalous data entry conditions
- Ensure all survey tool systems meet the needs of respondents, the UI survey team and BJS.

At the conclusion of the three system tests, changes in formats or substance will be made as needed and incorporated into the final survey tool to be fielded in January 2011.

IRB Review - At this stage in the project we will also secure Institutional Review Board (IRB) approval of our data security and human subjects protection plans. UI, consistent with the requirements set forth in Title 45, Part 46 of the Code of Federal Regulations, has an established IRB to make certain that its research practices and procedures effectively protect the rights and welfare of human subjects. The Institute IRB has obtained an assurance of compliance approved by the Office of Human Research Protections of the U.S. Department of Health and Human Services. Before any data collection can begin, a Human Subjects Protection and Data Security Plan will be submitted to UI's IRB for review and approval. The plan will include the survey research design, data collection strategies and data security procedures. Copies of the data collection instruments will also be submitted. In addition, all project staff and consultants will be required to sign a Staff Confidentiality Pledge to insure that confidential information (e.g. personal identifiers) are properly secured according to approved standards. UI's IRB will maintain oversight of this project throughout its duration and may suspend its work for noncompliance.

Web Interface for Online Reporting and Monitoring (BJS Task #11) - This will be a refinement of the management systems previously utilized for the BJS 2007 National Census of State Court Prosecutors (NCSP) and currently in use for the 2009 Census of Publicly Funded Crime Laboratories (CPCL). The foundation of this system will be a Microsoft SQL Server database that will include tables containing respondent contact information and report form status (i.e. progress, follow up necessity, validation, submission), records of why and how paper or CD based forms were received and a log of all contacts between UI and the respondents. On this foundation we will build a user interface navigable using a web browser. Features of the management and tracking systems will include:

- Multiple User Access - All members of the UI SGPLEA team and the BJS project manager will have user accounts on this web-based system. Members of the UI team will be able to create and modify response records of all respondents and maintain up-to-date contact records throughout the project. One or more accounts will be created for BJS giving them read-only access to respondent forms, response status reports and other performance tracking information.
- Audit Trails – In order to track item changes from returned surveys this feature will permit the retracing of each change from initial record creation through validation and submission. Dates, times and user information will be recorded for each respondent change. When survey records are updated by members of the UI survey team (e.g. during follow up clarifications and validations), they will be required to provide a reason for the change before being permitted to complete an update.
- Reports – The system will include a menu of reports that will display summary information related to data collection. These reports will be available to both UI project management and BJS for monitoring purposes. Examples of the kinds of reports that will be available include: 1) Response status (not started, in-progress, requires follow up, validated); 2) Response status by completion mode (web, CD, mail, fax); 3) Response status by survey section and individual item; 4) Response status by agency and designated agency respondent; 5) Item-level missing data, aggregate and by individual respondent; 6) UI survey team contacts by type (e-mail, phone, fax, mail) by week, month and project to date; and 7) UI survey team contacts by reason (delivery of instrument, technical assistance, non-response follow up, data validation by week, month and project to date).

Following the design of the web-based survey and management tracking systems intensive pre-rollout testing will be conducted by UI. This will be done to insure data validity and reliability and to maintain the scientific rigor of this survey data collection effort. We will first conduct internal testing with members of the UI survey team and our expert consultants. In addition, BJS will have the option of testing once the internal testing is complete. This important task will be completed during the latter phases of the action planning phase of the project, but will be well in advance of the January 1, 2011 rollout date to permit revisions and modifications, as required. While numerous diagnostic tests will be conducted during design, this testing phase will focus on the following objectives:

- Validate that the systems are working as intended (entry, navigation, reporting).
- [REDACTED]
- Document data output integrity under a variety of conventional and other entry conditions.
- Ensure that all components of both systems are working as designed and meet the needs of the respondents, the UI SGPLEA team and the BJS project managers.

Hard Copy and CD Surveys – While we will encourage web-based responses to the SGPLEA, we recognize that alternative survey completion methods will be necessary for those unable or unwilling to complete the survey on-line. Three alternatives will be made available in our initial correspondence to the law enforcement sample. Respondents unable or unwilling to use the web-based approach will be instructed to contact the SGPLEA help desk to acquire one of the other options. Each of the alternatives will include help options and contact information similar to what will be provided with the web survey. The first will be a fillable version of the

web-survey in PDF format on a CD. PDF will be used so that they survey can be opened and completed across multiple platforms, monitor resolutions and operating systems. If respondents do not have PDF software they will be required to install a PDF viewer on their own computers (Acrobat Reader is available as a free download). The survey and incomplete response updates will be able to be saved on local disk drives, so that respondents can complete the survey in sections, should they desire. This version will be designed and tested at the same time the web-based survey is being developed. The second alternative will be completion of a hard copy (paper and pencil) version, which can be mailed to UI. The last alternative will be faxing of a hard copy version, although is the least preferred due to data control and potential privacy concerns. Having multi-modal response options will increase response rates and we are confident based upon the similar approach utilized under NCSP that the 95% response rate will be achieved again for this survey.

Respondent Follow Up Plans (BJS Task #9) – Consistent with the tasks specified in the SGPLEA solicitation we will develop a comprehensive plan for conducting follow ups with non-respondents. This will be presented to BJS for review in month three of the project. While this is a separate task from the preparation of response plans, we believe that the two plans are highly interrelated, hence the proposed delivery of both plans at the same time. A number of activities that we propose to include in the follow up plan are also described briefly in the response plan section of this proposal. However, the follow up plan will include more specifics on the means by which we will provide technical assistance to respondents through our help desk and web tools, how unanticipated questions will be clarified and our empirical monitoring of item responses and other data collection issues to identify agencies in need of proactive outreach and follow up.

provided including a URL, username and password. To further encourage using the web-based approach we will not initially enclose the CD version or postage paid return envelopes or mailers, although these will be sent later should a respondent opt for the hard copy, CD or fax alternatives. Help desk contact information, including a toll free number, will be provided along with the survey deadline, which we will initially set for 60 days after roll out.

The survey administration will take place from January 2001 through the end of June 2011. Based upon past results, we anticipate reaching a 75% response rate sometime in March 2011 and a 90% response rate by the end of June.

Implement Tracking System (BJS Task #11) – As with the survey itself, the response tracking and survey monitoring system will be rolled out in the beginning of January 2011. This will be feasible as development and testing of this system will also take place under a rigorous schedule during the fall of 2010. Moreover, UI has also already developed and tested nearly identical systems to the one proposed for SGPLEA under its prosecutors and crime lab census projects. Modifications will need to be made to these previous systems based upon the new data collection tool and likely changes in some reporting function. However, once again the SGPLEA tracking system will not have be developed from scratch, thereby insuring its implementation at the same time as survey roll out.

Hard Copy and CD Survey Administration (BJS Task #10) – Hard copy and CD survey administration will also commence on January 1, 2011. While we will encourage web-based responses to the survey, we recognize that alternative survey completion methods will be necessary for those unable or unwilling to complete the survey on-line. Three alternatives will be made available in our initial correspondence to the law enforcement agencies – hard copy, CD and fax. Each of the alternatives will include help options and contact information similar to

what will be provided with the web survey. Response data from these alternatives will be entered into the same centralized data warehouse used for the web system. As a result, they will undergo the same validation checks as if they were entered on line. In addition, BJS will be able to view respondent status by response alternative using the web-based tracking system.

Follow Up with Non-Respondents (BJS Task #10) – While our follow up activities will be guided by a plan reviewed and approved by BJS in the fall, we do anticipate the following approaches will be incorporated: With the survey in the field, we plan to take a primarily passive posture toward follow up during the first month. During that time, we will closely monitor web survey activity, paper, CD and fax submissions, as well as item responses across each of the multiple modes. But beginning in February we will begin a more proactive follow up outreach. This will begin by contacting each of the non-responding departments to verify receipt of survey materials and to double check each agency’s designated point of contact information. This contact will also provide an opportunity for UI to answer any questions that an agency or individual respondent might have about the survey. Where necessary, new survey packets will be sent to agencies not receiving the original ones, or where points of contact may have changed. Another 30 day deadline will be set for this initial non-respondent group.

Extensive support and assistance will be available to respondents. First, as noted above, both the web-based and hard copy versions of the survey will contain a variety of help resources. These will include detailed instructions on how to complete the response items, a glossary of terms and definitions, item-specific help and explanations. In addition, a Help Desk will be staffed during normal business hours (east coast time) and will be available at no cost to respondents through a toll free number. The Data Collection Manager (see management plan) and her research assistants will be the primary points of contact for calls to the Help Desk.

When they are not available, incoming calls will automatically transfer to another member of the UI SGPLEA team for immediate assistance. Voice mail will be available for off hour messages and the Help Desk e-mail address will be provided in the introductory letter and survey packet. UI will respond to all messages no later than the next business day. In addition, to insure rapid communications and the provision of appropriate assistance, we plan to provide each respondent with office telephone numbers and e-mail address of the principal investigator.

Missing Data Adjustments and Imputations (BJS Task #13) - All survey data collection typically encounter loss of data from item nonresponse. *Item nonresponse* refers to the absence or loss of responses to specific questions in the survey instrument. Such losses of data can potentially lead to item nonresponse bias in survey estimates.

The conventional approach to addressing item nonresponse is to either ignore it (if rates of missing data are exceedingly small, say less than 2-3 percent for key items), or to impute valid, plausible values in place of the missing data indicators. Ideally, missing values should be imputed *multiply* to reflect the uncertainty associated with “predicting” the unobserved value. Previous iterations of LEMAS have encountered modest rates of missing data for key variables ranging 10 to 18 percent for some items (in the 2003 LEMAS). These levels of incomplete data warrant adjustment of the data.

Impute missing data. LEMAS has historically required imputation to adjust for item missing data. Item missing data occurs when an otherwise complete questionnaire is received but not all survey items are answered, or the responses are illogical (e.g., out of range, inconsistent with an earlier response to a related survey question). After the 2003 LEMAS, missing data were imputed for a number of items as part of the data processing effort using techniques such as ratio adjustment (*Local Police Departments, 2003*; MJ Hickman & BA

Reaves, BJS; NCJ210118, May 2006). On some items as much as 18 percent of the values were imputed.

Despite our best efforts to minimize missing data during the data collection phase, we expect a small amount of missing data will be incurred 




















Two other issues are worth noting. First, it is important to invoke imputation only after an

attentive data processing and editing approach is undertaken to identify *logical imputations*. Logical imputations can be implemented when there is sufficient survey response and/or auxiliary information to literally deduce the value of the missing datum with certainty. A trivial example is the imputation of a missing total when the individual components are recorded (and the respondent neglected to calculate and record the total). Secondly, we will set imputation flags for all variables subject to imputation in the data file delivered to BJS. The addition of the flags will allow analysts the option of applying alternate techniques to adjust for missing data.

Propose and present a weighting scheme (BJS Task #15) - In order to generalize the sample statistics to all LEAs in the U.S., analysis weights must be applied to the survey data. The analysis weights will be composed of three elements: a base (sampling) weight (**SW**); a nonresponse adjustment (**NR**); and a post-stratification adjustment (**PS**). The analytic weight (**W**) will be the product of the two:

$$\mathbf{W} = \mathbf{SW} \times \mathbf{NR} \times \mathbf{PS}$$

The base weight is simply the reciprocal of the selection probability of the jurisdiction. For census strata, the probability of selection is 1.0 (i.e., representing a certainty selection); for the non-self-representing sampling, the selection probability is simply n/N where n represents the sample size from the stratum and N represents the total number of agencies in the sampling frame from the same stratum. The base weight is the reciprocal of the selection probability:

$$\mathbf{SW} = \mathbf{N/n}$$

Similarly, the nonresponse adjustment is the reciprocal of the weighted response rate (i.e., the response rate calculated using the base weights). Nonresponse adjustments are typically calculated separately within cells formed using variables available in the sampling

frame (e.g., finer degradations of population served x agency type x number of sworn officers). For the purpose of illustration, if r is the weighted number of respondents (using the base weight) out of a sample of n weighted agencies, then the weighted response rate is simply r/n and the nonresponse weight adjustment would be

$$NR = n/r.$$

[REDACTED]

The final weighting component will be the post-stratification adjustment. We assume that the sampling frame used to select agencies for the LEMAS will be the best available at the time of sample selection. However, by the time data collection concludes an updated list of LEAs and/or an updated distribution of LEAs by stratification factors or other factors may be available. These can be used to generate post-stratification adjustments so that the survey data can align with ‘known’ LEA population distributions. Like the nonresponse adjustment, the post-stratification adjustment is calculated within cells defined by cross-tabulating stratification or other factors. Within each adjustment cell, letting M denote the ‘updated’ population count

and m denote the weighted count using the LEMAS survey respondents weighted by ($SW \times NR$), then the post stratification adjustment is simply:

$$PS = M/m.$$

UI will prepare a report detailing our methods and findings and be ready to implement the weighting plan within 2 weeks after concluding data collection.

Task 5 – Compile Response Data Files and Documentation/Efficiency Assessment

The final task of the SGPLEA project includes the provision of interim survey findings reports to BJS, the compilation of the survey data files and documentation for archiving, the delivery of two post-survey reports – one on item reliability and the other on survey efficiency. Two roundtable meetings of law enforcement practitioners and researchers will also be convened to review and discuss the efficiency findings developed by UI.

Descriptive Reports at 75%, 90% and Final Response Rate (BJS Task #14) – Three descriptive reports will be prepared for BJS beginning at the 75% response stage, again at 90% and after data collection is complete and the final rate is achieved. The reports will present survey item frequency distributions and summary statistics along with cross tabulations of all survey variables by agency type and size (population served, number of sworn officers and annual budget). The reports at the 75% and 90% levels will include unweighted data for all variables consistent with solicitation requirements. The final descriptives report will be based upon weighted data according to the weighting scheme developed under the previous survey task, described above.

Compile Final Data Files and Documentation (BJS Task #12) - About midway through the survey administration period data cleaning and data file processing will commence. One advantage of the careful design of the survey management system and validation/clarification

procedures will be that relatively little recoding and cleaning will be required. We expect that the primary cleaning and recoding required will focus on text field response items. This process will be under the supervision of Ms. Samantha Hetrick Lowry, the compilation and reporting manager. Metadata, including variable and value labels and question text, will be entered into the database underlying the survey management system. They will be directly related the survey data elements and structured to automate the production of the codebook (including variable and value descriptions). We anticipate producing the codebook using SPSS scripts, unless BJS prefers SAS, which we can also produce, and an XML parser.

We currently plan to use the scripts to automate the recoding and cleaning operations as well as the exportation of the data to ASCII files. The final scripts will be BJS deliverables and will be written against the final survey data tables. The auditing capabilities of the survey management system will permit the retracing of data manipulations from the original responses to the final ASCII data files. The scripts will be drafted and tested while the survey data are being collected and continue until after the end of the collection period. The final deliverable package will include the codebooks, machine-readable ASCII data files and all program code. Delivery is scheduled no later than September 15, 2011. Data archiving with the National Archive of Criminal Justice Data will take place after survey product deliveries to BJS and will be managed by Ms. Hetrick Lowry. She has previously prepared required archiving documentation, including most recently the 2007 NCSP.

Reliability Report (BJS Task #16) - At the conclusion of the survey administration period, UI will prepare and deliver to BJS a report outlining possible strategies for identifying SGPLEA item reliability issues. This report will be based upon the current survey measurement literature and will include a number of potential approaches. These will be item comparisons

between the 2010 SGPLEA and the most recent 2007 LEMAS item responses, resurveying options to include web-based, hard copy and telephone methodologies, and comparisons of response data to publicly available statistics contained in yearly agencies reports, on web pages or in other public domain documents. Recommendations for improving measurement reliability in future surveys of law enforcement agencies will be included.

Provide BJS with Efficiency Report (BJS Task #17) - The SGPLEA offers a unique opportunity to examine the recommendations of the NRC panel. This solicitation calls for an assessment of a number of issues related to SGPLEA, but it is important to recognize that the issues transcend SGPLEA and represent central issues to the larger integrated BJS Program of Law Enforcement Organizational Surveys. As such, it is critical for any assessment of SGPLEA efficiency to include consideration of the larger BJS Program. Below we discuss our approach to assessing the six issues listed in the solicitation.

- A. A staggered census and sample program versus ongoing sampling and related approaches. BJS historically has used a staggered census/sample survey approach to collect data on law enforcement agencies. Our approach to this task will include several tracks. First, it is prudent to start with a reaffirmation of research objectives (because episodic data collection lends itself to one set of research questions, while continuous data collection lends itself to another). We envision creating a succinct tabular approach to illustrate our findings under this subtask. The table(s) would list alternative data collections as columns (e.g., episodic, continuous, rotating panel/episodic, rotating panel continuous, etc.) Sets of rows of this table would reflect dimensions of “assessment”. For instance the first set of rows would deal with the types of research questions that can be adopted by BJS; cell entries in the table would reflect which designs are best suited to

specific questions/objectives. The next set of rows could focus on statistical precision criteria, i.e., sample sizes available would impact standard errors of population parameters (percentages, averages, totals, change over time, etc.). And different sample sizes are possible under various models, so a rough sense of trade offs could be developed. Another set of rows could be devoted to resources needed for each approach. UI and BJS would collaborate to develop the relevant ‘assessment measures’ to gauge the tradeoffs under different design alternatives. Finally, we note that research on these tradeoffs could be greatly informed from previous literature that exists on the design/enhancement of other federal survey programs such as SAMHSA’s National Survey of Drug Use in Households or the Census Bureau’s American Community Survey and Survey of Program Participation. As such, a literature review would be essential to this work, as we need not ‘re-invent the wheel’.

- B. Episodic data collection versus continuous rotating panels.** Starting and stopping data collection can be a costly venture if survey orchestration requires knowledgeable, experienced staff and a sizeable infrastructure. Moreover, continuous data collection can capture changes over short time periods in a way not possible by episodic data collections. But episodic data collections provide larger samples at specific points in time, thus allowing higher statistical precision that cannot be matched under continuous data collection (these trade-offs should sound familiar to anyone knowledgeable about the American Community Survey). Our approach to this subtask will be to extend the work by including: (a) cost and level of effort components (to the extent that BJS can provide these elements), and (b) an empirical component using survey data from previous iterations of LEMAS and the 2010 SGPLEA. Our empirical analysis would examine the

extent to which sets of key/substantive survey measures actually change over time. It can be argued that if the key elements do not change meaningfully (i.e., enough to have policy implications) between iterations, then the periodicity could actually be extended. Alternatively, to the extent that important survey items exhibit substantial (policy relevant) magnitudes of change, then the frequency of data collection should be increased, possibly to the point of continuous data collection. This exemplifies our proposed analytic approach to this subtask. As with all the other subtasks in Task 17, all analysis plans will be developed in collaboration with BJS.

- C. Longitudinal design and analysis. Longitudinal design and analysis involves the retention of agencies from one SGPLEA data collection to the next. Since a large group of agencies (i.e., the self-representing LEAs) is already being retained from survey iteration to survey iteration, the agencies affected under a longitudinal design will be the smaller LEAs coming from non-self-representing strata. Our strategy to examine the potential for longitudinal analysis will be to take the LEMAS/SGPLEA data series and examine changes over time among the subset of self-representing agencies. This is the only source of data available and it can easily be exploited. We can show the types of changes likely to be captured under a longitudinal design and contrast this with a simulated “cross-section” design by subsampling a portion of the self-representing agencies from one or both waves of the surveys that are being contrasted. The absence of the agency-specific correlation between waves should be telling, and will give an indication of the value (in terms of statistical precision and/or coefficients of variation) one might expect when migrating from a cross-sectional design to a longitudinal design.

D. Nonresponse adjustments and their impact on survey estimates, especially at lower response rates. Compared to most sample surveys in the U.S. – both person based and establishment surveys—the LEMAS has enjoyed participation levels (response rate) so high that the potential for nonresponse bias borders on negligible. However, times are changing, especially with state and local government resources being continually diminished due to the global economic crisis impact on tax revenues. In almost every industry and population, survey researchers have witnessed a downward trend in response rates. So it behooves BJS to explore the potential for nonresponse bias and methods to adjust for it. Our approach will be to exploit the LEMAS/SGPLEA data series as much as possible. If, indeed, unit nonresponse is small, then for any given survey iteration there will only be a few cases that did not participate. But over several iterations of LEMAS/SGPLEA, that number should grow. We would seek those agencies that participated in at least one survey but failed to participate in another. Using this approach, we would essentially transform a *unit nonresponse* problem (where no survey data is gathered for a nonrespondent) into an *item nonresponse* problem (where data was collected from some but not all iterations of the survey). This approach is not foolproof in that there may be a set of perpetually recalcitrant agencies, and if that set is large then this approach would offer limited insight. But we can address that at the time of our analysis. We could then focus on different sets of survey items to examine the potential for nonresponse bias. We may even be able to develop an empirically based threshold below which BJS will know that bias of a certain magnitude is a threat. Another approach will be to examine the drivers of participation via propensity modeling. We would statistically model the likelihood of participation to identify characteristics of

agencies that favor recalcitrance. This could be highly useful in both developing nonresponse weighting adjustments and planning the field operations for future surveys to increase participation.

- E. How to survey general purpose agencies to incorporate information from special purpose agencies.** The movement towards a SGPLEA is in line with collecting a core set of data items across a variety of agencies. But not all agencies are alike, and a principal reason for fielding separate studies (e.g., campus law enforcement, training agencies) is precisely because the nature of their business differs substantially from general LEAs. We would explore this issue by addressing two dimensions: (1) the similarities and differences of data elements that are needed from special purpose agencies compared to SGPLEAs; and (2) the analytic uses of special agency data (getting back to the all-important research questions/goals). We would use the results to develop two or more alternative designs for integrating the SGPLEA general and special agencies. The designs would address issues of integrating the data collection instrument, the sample, and the frequency of data collection (e.g., it may make sense to collect data from special data only biennially while SPLEA is collected annually). And the special agency data items could be collected as a separate module in addition to (or instead of) the ‘general purpose’ agency items.
- F. Exploration of core and supplement design in the context of burden reduction and statistical precision.** This subtask calls for the exploration of *split ballot designs* (SBDs). SBDs refer to the classic technique of maximizing collected information at the (modest) cost of statistical precision. Under this methodology, the sample would be partitioned into

a small number of random subsamples each receiving a somewhat different configuration of survey questions:

- The entire sample would receive a *core module*, composed of those data elements that would be collected for all sampled agencies;
- Two (or more) “value-added” modules - each module would be comprised of a set of survey questions on a specific “hot topic” and assigned to a complementary random subsample; for instance, one module could focus on the impact of the global economic crisis on agency infrastructure, while another might focus on how existing budgets are allocated to law enforcement areas (vice, juveniles, gangs, etc.);
- One or more “constrained” modules - the term ‘constrained’ is used to describe selective subgroups for which a module or split ballot methodology would be applied; for instance, the collection of courts from large urban and suburban LEAs might focus on training issues (in addition to the core), while rural agencies would receive the core plus a modules tailored to rural issues (e.g., use of part time staff).

[REDACTED]

[REDACTED]

[REDACTED]

The attraction of this type of design is that more data items can be gathered; the limitation is that non-core module data are collected for only a subset of the sample. That means that sample sizes and statistical precision for some modules are reduced relative to that obtained for the core measures. It also means added complexity for the

analysis of the data (either through the need for special analytic weights for each module set or the use of special analytic imputation techniques that exploit the random missing data feature of the cases not receiving the module). Our approach to this subtask will be to explore the tradeoffs between burden (e.g., average survey administration time) and statistical precision (e.g., standard of a statistic) under various split ballot scenarios (e.g., 50/50 split, 33/33/33 split, etc.).

Convene Two Roundtables to Discuss Survey Efficiency (BJS Task 18) – During the final quarter of the SGPLEA project UI will convene two separate roundtables of law enforcement practitioners and researchers to review the Survey Efficiency Report prepared under the previous task. These roundtables will be held at the UI conference facilities in Washington, DC at no cost to the project. Approximately 20 individuals will attend each roundtable and it is anticipated that about half will require out-of-town travel, which is included in our proposed project budget. Dr. Hayeslip, the project Principal Investigator, will moderate and facilitate discussions at both meetings. The results of the meeting will be summarized by the UI team and delivered in report form to BJS along with efficiency recommendations from the participants. Participants will be chosen in collaboration with BJS.

6 Professional Capability and Project Management

The Urban Institute – Established in 1968 as a private, nonprofit corporation in Washington, D.C., the Urban Institute has become nationally known for its objective and nonpartisan research and educational outreach on social, economic, and governance problems facing the nation. It provides information and analysis to public and private decision makers to help them address these problems and strives to raise citizen understanding of the issues and tradeoffs involved in policy making.

Staff. Institute expertise encompass a full range of social and economic policy and is organized into ten policy centers: Education Policy, Health Policy, Income and Benefits Policy, International Activities, Justice Policy, Labor, Human Services, and Population, Metropolitan Housing and Communities, Nonprofit and Philanthropy, Tax Policy (a joint venture with the Brookings Institution), and the Assessing the New Federalism Project. The Institute has a multi-disciplinary professional staff of approximately 343, including 231 researchers and analysts.

Computational Resources. The Information Technology center at the Urban Institute meets a variety of data- processing and information- management requirements. The personnel have a wide range of computer experience in data extraction and coding, the development of large database-management systems and sophisticated microsimulation models, and web site construction and maintenance.

The Institute's Information Technology center maintains a professional staff of programmers and analysts proficient in the C++, Visual Basic, COBOL, and Fortran programming languages, the Oracle and SQL-server database systems, and such statistical software as SAS and SPSS. The staff also produces HTML documents for the web, creates interactive web interfaces using Java and Java Script, and establishes web-accessible data bases using Cold Fusion.

The Information Technology staff is currently developing or maintaining numerous applications. Microsimulation applications include the TRIM III client-server model and the dynamic simulation model, DYNASIM. Several internet web sites are maintained, as well as an Institute-wide intranet. Staff members have extensive experience with social science databases, including CPS, SIPP, Census, Federal Justice Criminal Processing, and the Institute's own NSAF and ANF state databases, as well as Health-related databases, including the Center for Medicare

and Medicaid Services (CMS) Claims, the American Hospital Association Survey, the Medicare Current Beneficiary Survey, and the National Medical Expenditure Survey.

The Urban Institute operates two Hewlett-Packard Alpha Servers with running the highly reliable OpenVMS operating system. An Alpha Server 4100 handles administrative and financial computing and runs the oracle database software. An Alpha Server ES45 handles our heavy-duty research computing, including the SAS statistical software, for projects with large computational or data requirements. Using SAS/Connect, SAS can be used in a client/server arrangement, with Windows user interface but the processing and data storage on OpenVMS.

The Urban Institute strives to preserve data integrity and security. A firewall monitors and evaluates all attempted connections from the Internet to our public web servers and our private network. Up-to-date anti-virus software runs on our desktop PCs and our servers. We also implement other “best practices” for securing our servers and our desktop PCs.

All Institute staff members are supplied with IBM-compatible PCs. The typical PC configuration is a 1.7 GHz Dell Pentium 4 with 256 to 512 RAM, 40 Gig Hard Drive, CD RW and floppy drives and 17-inch monitor. Standard software includes Windows 2003, Office 2003 Professional (Word, Excel, ACCESS, and Power Point) and Microsoft Outlook 2003. Although the Institute's standard word-processing software is Microsoft's Word, the Information Technology department can convert documents to and from WordPerfect. The Institute also supports more than 30 portable IBM-compatible computers. Remote access to the LAN is available and remote e-mail is also available via Outlook Web Access.

The UI Justice Policy Center (JPC) will be the primary survey administrator. JPC conducts research on a wide range of criminal justice issues, including policing, forensic evidence, court innovation, juvenile justice and gangs, community mobilization against crime,

institutional and community-based corrections and reentry. It regularly collaborates with governmental, community-based, nonprofit foundations and business organizations both domestically and abroad. It has conducted many evaluation projects on a wide range of issues utilizing a variety of research designs including large scale national surveys, case studies, quasi-experiments and true randomized control group experiments. Its staff has extensive expertise in both qualitative and quantitative data collection and analysis techniques including interviews, focus groups, multi-modal survey administration and participant observation, as well as the use of agency maintained automated datasets such as criminal incidents, arrests, case processing, sentencing and recidivism.

Several recent projects conducted under the direction of JPC researchers are particularly illustrative of the center's unique ability to successfully conduct this law enforcement survey. It is currently administering the *Publicly Funded Crime Laboratory Census* for BJS and recently successfully administered the *NCSP* for BJS. It also manages the *Federal Justice Statistics Resource Program (FJSRC)* for BJS. JPC researchers have also successfully managed many large multi-site evaluations of equal or greater complexity to the proposed law enforcement survey scope of work.

Task Timeline - A fifteen month period of performance is planned beginning in October 2010 and ending in December 2011 as illustrated in Figure 1. *Task 1, Start Up and Project Management*, will commence immediately after the grant award by BJS. In the first month a kick-off meeting will be held with BJS to finalize work plans and project timelines. Within two weeks of that meeting a revised scope of work and task timeline will be presented to BJS for review and approval. Standard OJP biannual categorical progress reports will be prepared and delivered to BJS and monthly financial reports are also planned under *Task 1*. Over the

following quarter intensive efforts will be devoted to a review of the BJS draft survey instrument and sampling plan under *Task 2*. The draft instrument review will be conducted by the UI survey

Figure 1 - 2010 SGPLEA Task Timeline

Task	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1. Start-up and Project Management																	
1a. Kick off planning meeting with BJS																	
1b. Revised project task timeline																	
1c. Monthly conference calls or meetings with BJS (BJS #1)																	
1d. Submit progress reports to BJS																	
2. Reviews of BJS Instruments and Sampling Plan																	
2a. UI review of BJS instruments (BJS #2)																	
2b. Law enforcement expert reviews of instruments (BJS #2)																	
2c. UI review of BJS sampling plan (BJS #3)																	
2d. Report on instrument and sampling revision recommendations																	
2e. Oral presentation to BJS on reviews																	
2f. Review and comment by BJS on revised instrument																	
2g. Finalize survey instrument																	
3. Law Enforcement Survey Planning																	
3a. Select survey sample of 3500 law enforcement agencies (BJS #4)																	
3b. Develop 90 percent response rates plan (BJS #5)																	
3c. Deliver response rate plan to BJS for review																	
3d. Develop online web-based reporting tool (BJS #6)																	
3e. Field test web-based tool (BJS# 7)																	
3f. IRB review of human subjects protection and data security plans																	
3g. Web interface for online reporting and tracking (BJS #11)																	
3h. Hard copy and CD versions of survey																	
3i. Develop follow up plan for BJS review (BJS #9)																	
3j. Deliver follow up plan to BJS for review (BJS #9)																	
4. Survey Administration (BJS #10)																	
4a. Initial respondent contact letter																	
4b. Verify and update contact information																	
4c. Web based survey administration (BJS #8)																	
4d. Hard copy and CD versions survey administration (BJS #8)																	
4e. Multi-modal follow up with non-respondents (BJS #9)																	
4f. Respondent help desk																	
4g. Data entry of hard copy survey responses																	
4h. Response validation and clarification with respondents																	
4i. Missing data adjustment and imputations (BJS #13)																	
4j. Weighting scheme for BJS (BJS #15)																	
5. Compile Response Data File and Documentation/Efficiency																	
5a. Clean data																	
5b. Descriptives reports at 75%, 90% and final response (BJS #14)																	
5c. Create codebook																	
5d. Prepare ASCII data files and scripts																	
5e. Deliver codebook, data files and documentation BJS (BJS #12)																	
5f. Reliability problems assessment report to BJS (BJS #16)																	
5f. Efficiency issues report to BJS (BJS #17)																	
5g. Two law enforcement expert efficiency roundtables (BJS #18)																	
5h. Efficiency roundtable consensus report to BJS (BJS #18)																	

Tasks in parentheses correspond to those specified by BJS in the SGPLEA solicitation

team in close consultation with its two law enforcement expert consultants. The review will focus on substantive topics and questions as well as formatting and item construction in order to reduce respondent burden.

Concurrent with the instrument review will be an assessment of the proposed BJS sampling plan. This will be conducted under the leadership of Rob Santos, Urban Institute Senior Methodologist, and renowned sampling statistician who has overseen similar work for BJS in the past and for a substantial number of other federal agencies and in the private sector. At the conclusion of these reviews a written report will be provided to BJS. This report will be discussed at a meeting with BJS and project consultants at UI's conference facilities in Washington, DC no later than the third month of the project. Discussions from this meeting will be documented for BJS and from which suggested revisions can be incorporated into the survey instrument design and sampling plans.

While the survey design and sampling plan reviews are being conducted we plan to also be engaging in survey administration action planning, *Task 3*. The first activity will be selecting the survey respondent sample, which will take place by the end of the third month. We also will develop a response follow up plan to insure a minimum response rate of 90-95% percent (we have exceeded that in past national level surveys) and deliver that plan for BJS review in month three. The next area of action planning will be the development of the on-line survey response tool under the leadership of UI's information technology department. Testing of the on-line tool is planned for late in the third month following instrument finalization. Over the same first quarter other versions of the multi-modal survey will be developed, including paper and pencil and CD versions.

The roll out of the multi-modal survey administration under *Task 4*, is scheduled to begin in January 2011, or the fourth month of the project. This will begin with an initial agency respondent letter and verification and updates of new or revised contact information. We plan to emphasize utilization of the web-based survey for respondents and deemphasize hard copy

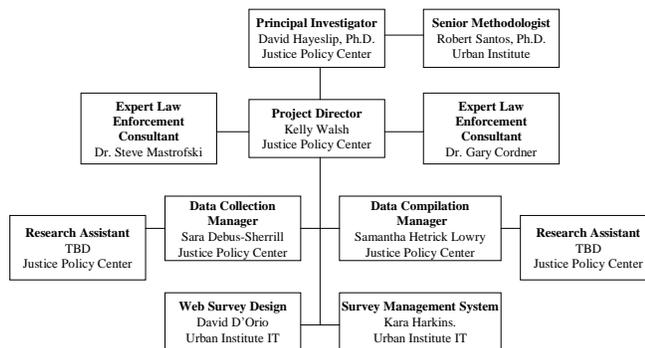
options. Progressively intensive non-respondent follow ups will be initiated a month after initial roll out and continue until the end of the planned data collection period. During that period a full time help desk will be available to respondents as well. As surveys are completed on line or responses received in hard copy formats, both electronic and visual validations of item responses will be conducted on a rolling basis during the entire collection period. Current plans are to achieve 90 percent returns by the summer of 2011.

We plan to begin to clean and validate data on a rolling basis commencing with receipt of the first surveys. Over the last quarter of data collection we will create ASCII data files and codebooks, as well programming and coding documentation under *Task5*. This compilation and documentation process is planned for approximately three months, after which the deliverables will be transmitted to BJS by the middle of September 2011. During the same period we will develop reliability and efficiency assessment reports for BJS. The latter will be discussed at two planned roundtables of law enforcement experts in the fall of 2011.

Management plan – An organizational chart summarizing key survey team members and consultants is presented in Figure 2. **Dr. David Hayeslip**, Senior Research Associate, will be the SGPLEA Principal Investigator. Dr. Hayeslip is currently the Principal Investigator for the BJS' *Census of Publicly Funded Crime Laboratories*. This census incorporates a multi-modal survey methodology, including a web-based approach and a near real time electronic progress monitoring system for BJS. All of these successful census administrative elements have been incorporated into the proposed scope of work for the SGPLEA. In addition to this most recent experience, he has managed numerous large scale multi-site studies of law enforcement related issues and is the former Assistant Director for Program Policy Support and Evaluation with the Office of Community Oriented Policing Services, U.S. Department of Justice, where he

worked with BJS on revisions to LEMAS in the 1990s. He also is a former Program Manager and Visiting Senior Research Associate with the National Institute of Justice.

Figure 2
2010 Survey of General Purpose Law Enforcement Agencies
Organizational Chart



The SGPLEA project director will be **Kelly Walsh**. Ms. Walsh is a Research Associate in the Justice Policy Center and a doctoral candidate in the criminal justice program at the City University of New York Graduate Center. Her research work at UI focuses on both criminal justice social science issues and forensic science. She is currently the Project Director of the CPCL for BJS and has worked closely with the leadership and staff of the law enforcement section over the past year. She is also co-PI along with Dr. John Roman on an NIJ funded motor vehicle field experiment and is Project Director for another NIJ study of forensic crime lab efficiencies. Prior to joining the Justice Policy Center at UI she was an Adjunct Instructor at John Jay College for Criminal Justice and a researcher at the Center for Modern Forensic

Practice. Her experience managing large scale studies and managing the web-based census survey of crime laboratories for BJS makes her ideally suited for the day-to-day management of this significant undertaking, as well as collaboration with BJS.

Robert Santos will lead the sampling strategy review, the imputation of missing data, the analysis of nonresponse and efficiency review and recommendations. Mr. Santos is an appointed Senior Institute Methodologist in the Statistical Methods Group of the Executive Office Research Center at UI. Prior to this, he was Executive Vice President and Partner of NuStats Partners, LP, a social science research firm in Austin Texas. Mr. Santos has over twenty-five years experience in the survey research industry as a sampling statistician, statistician, project director, and senior research administrator. He specializes in sampling, survey design, survey methodology, and survey operations, including rare element sample designs. Mr. Santos has designed and implemented numerous studies across the vast inter-disciplinary landscape of social policy research. A few noteworthy national samples he designed include the 2001 Integrated Studies of Educational Technology (ISET), the 2000 Housing Discrimination Study, the 1985 National Household Survey on Drug Abuse; the 1987 National Survey of Families and Households; and the 1989 National Latino Political Survey.

Sara Debus-Sherrill will be in charge of managing the data collection effort. Ms. Debus-Sherrill acted as Data Collection Manager in the 2007 NCSP and has three years experience in applied social science research and program evaluation, including experience designing, managing, and conducting outcome and process evaluations of criminal justice programs and policies. Ms. Debus-Sherrill has served as co-PI for the Katrina Legal Initiative, an evaluation of legal assistance provided to the Gulf Coast region after Hurricanes Katrina and Rita. In addition, she has managed multi-site, federally-funded projects, including the Jail

Sexual Assault Prevention study and the Evaluation of the Forensic DNA Unit Efficiency Improvement program. Ms. Debus-Sherrill has extensive experience in survey design and data collection. She managed the data collection for the 2007 NCSP which achieved a 95.5% response rate for over 2,300 prosecutor offices and is currently the data collection manager for BJS' 2009 CPCL. In addition, Ms. Debus-Sherrill assisted in the revision of the BJS census instrument for the crime lab data collection effort and in the design of survey and interview instruments for other studies, such as the Katrina Legal Initiative, Jail Sexual Assault Prevention Project, Evaluation of Criminal Justice Interventions for the Mentally Ill, and Thurgood Marshall Academy school violence prevention study. She will be supported by one or more researcher assistants from the Justice Policy Center.

Samantha Hetrick Lowry will be primarily responsible for revisions to the survey instrument and sampling strategy, designing the survey management system, managing the data processing (including imputation and weighting), and preparing the deliverables. She served as the primary data processor for the 2007 NCSP and was responsible for creating the deliverables, data files, and processing/validation scripts. Ms. Lowry has five years of experience conducting analysis and managing large evaluation efforts, with particular focus on the spatial and statistical analysis of crime and public safety data to support evaluations of several youth violence, gang, and crime control and prevention initiatives. She serves as project director for an evaluation of the use of public surveillance systems in three U.S. cities as well as an NIJ-funded project aimed at preventing car crime in Metro's parking facilities. Ms. Lowry is currently the project director for the OJJDP-funded Norms and Networks of Latino Youth project, which includes the collection of personal social network data from youth to assess the composition of Latino gang members' friendship networks to derive the structural properties that influence the commission

of crime. She recently served as the project director on the School-Based Violence Prevention and Demonstration Program in New York and as an analyst on the Evaluation of the Gang Reduction Program, a multi-site, multi-year study. Ms. Lowry has extensive knowledge and proficiency in data-processing software (including Access, SAS, and SPSS). She will also be supported by one or more research assistants from the Justice Policy Center.

Mr. David D’Orio, a Senior Programmer Analyst for UI’s Information Technology Center will develop the web survey forms and the survey management systems. He has extensive experience designing and implementation web-based data collection methods, including those utilized in large scale multi-site multi-year studies. His web survey and management system work has included applications utilized for the Department of Justice, the Department of Education and numerous private foundations. He is intimately familiar with the NCSCP web survey design and management tracking system that will serve as the prototype for this survey, being the lead technical designer on that initiative. He will be assisted by **Ms. Kara Harkins**, a computer professional with over 20 years of experience in database development and management, web design and administration. She also has extensive experience in system maintenance and response validation, key requirements for this survey.

Providing expert technical support to the design and administration of the survey will be two internationally recognized law enforcement researchers, who will join the team as consultants. **Dr. Steve Mastrofski** is a University Professor, Director of the Center for Justice Leadership and Management and Senior Fellow with the Center for Evidence-Based Crime Policy at George Mason University (GMU), as well as a Fellow of the American Society of Criminology. He is past Chair of the Administration of Justice Department at GMU and was a member of the National Research Council’s Committee to Review Research on Police Policy

and Practice. In addition to being the author of numerous publications on law enforcement he is also a former Visiting Fellow at the COPS Office and the National Institute of Justice. **Dr. Gary Cordner** is Professor of Criminal Justice at Kutztown University of Pennsylvania and a Commissioner with the Commission on Accreditation for Law Enforcement Agencies. He is a former professor, dean and department chair at Eastern Kentucky University and a past president of the Academy of Criminal Justice Sciences. He has practical experience as both a small town police officer and police chief and has published extensively on a variety of law enforcement topics, including issues facing small departments. Their experience and professional standing will be of significant value in securing professional organizational endorsements for the survey and they both will play a vital role in survey non-response follow up contacts with law enforcement agency executives and staff to insure that the survey team exceeds the goal of a 90% response rate.

7 Plans for Measuring Progress and Outcomes

UI's planned SGPLEA on-line tracking and monitoring system include reporting capabilities previously field tested whereby BJS will be able to examine survey performance in near real time over the course of the entire project. Illustrative measures include agency response rates, response burden by item using time stamps, items response rates and missing data, among other indicators of meeting SGPLEA goals and objectives. Supplementing these ongoing measures will be bi-annual categorical progress reports that will include detailed qualitative and quantitative performance data relating to instrument design, pre-testing results, survey administration activities and response rates, data collection and validation and preparation/delivery of required deliverables.